



Army Special Operations Aviation (ARSOA) Modernization Program

by

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ARSOA Modernization Program



The objective of the ARSOA Modernization Program is to maintain a ready and relevant SOF aviation force well into the new millenium through two thrusts -

- Enhancing the capabilities of the existing fleet to perform evolvoing missions and to counter emerging threats.
- Ensure the safety and sustainability of the existing fleet to exceed operational readiness requirements until the next generation of aircraft are developed and fielded.



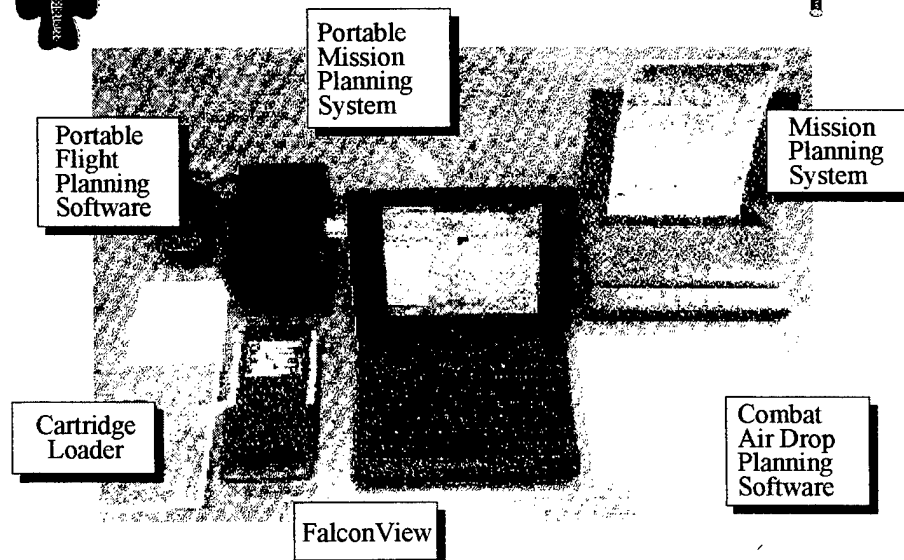
Modernization Areas



- Programs applicable to multiple platforms
 - Mission Planning
 - Survivability
 - Sensors
 - Avionics / Navigation
 - Simulation
- Platform specific programs
 - A/MH-6 Little Bird
 - MH-47 Chinook
 - MH-60 Blackhawk



Mission Planning

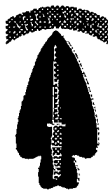




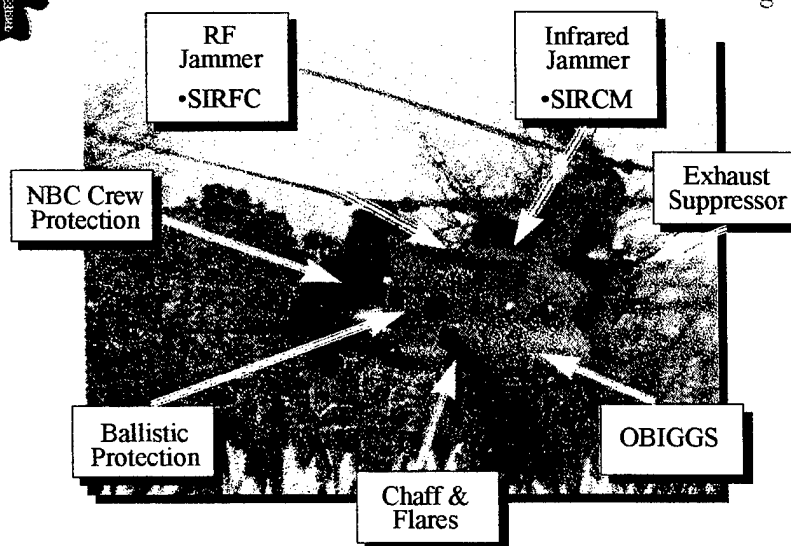
Mission Planning Functions



- Point and drag route planning
- NIMA Standard worldwide maps, DTED and imagery
- Fast, flexible flight planning of complex missions, analysis and rehearsal
- Threat analysis, radar predictions, perspective views, and fly-through
- Full kneeboard card printing and cartridge loading
- Aircraft specific performance planning

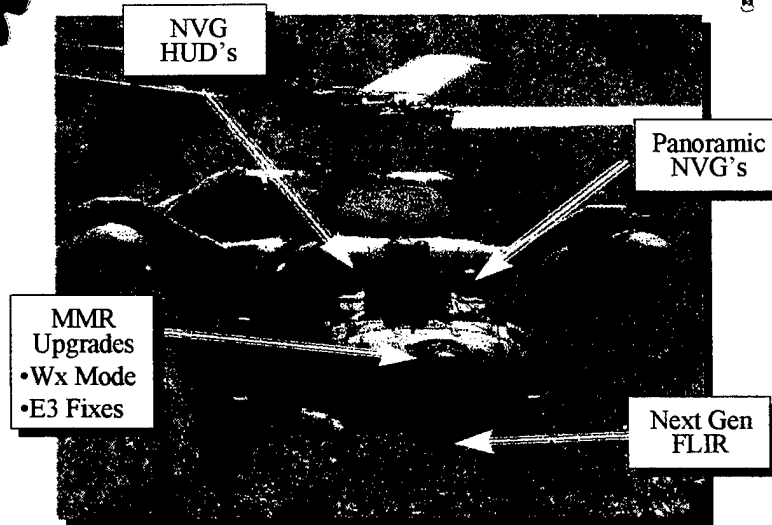
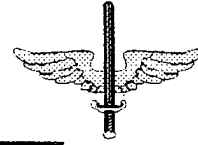


Survivability

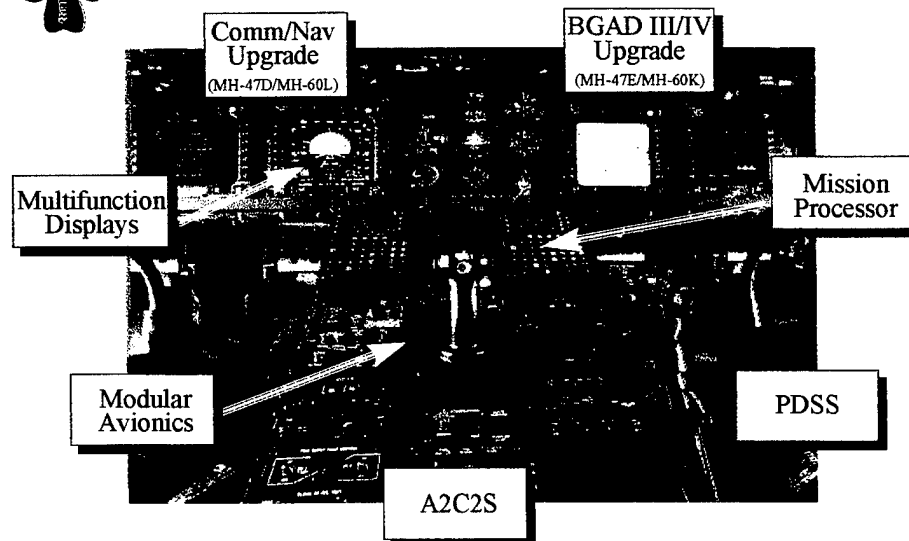




Sensors



Avionics / Navigation





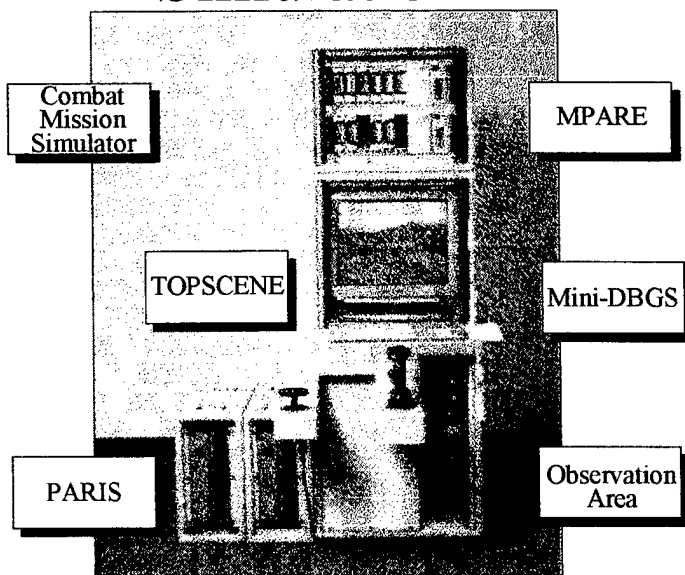
Avionics Upgrades

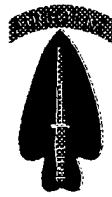


- MH-47D/MH-60L
Comm/Nav Upgrade
 - EGI integration
 - EHSI/EADI replacement
 - Bus control of ARC-210, ARC-201, ARC-164, PLS, ELT
 - ARC-220 installation
 - SLAB Battery
 - ALE-47, AAR-47 and AVR-2A installation
- MH-47E/MH-60K BGAD
III/IV Upgrade
 - Digital Map integration
 - EGI integration
 - ARC-220 integration
 - SkyFire installation
 - ASE Engineering Fixes
 - HPRT
 - ITAA
 - FOV Lenses
 - MH-47E E3 Fixes

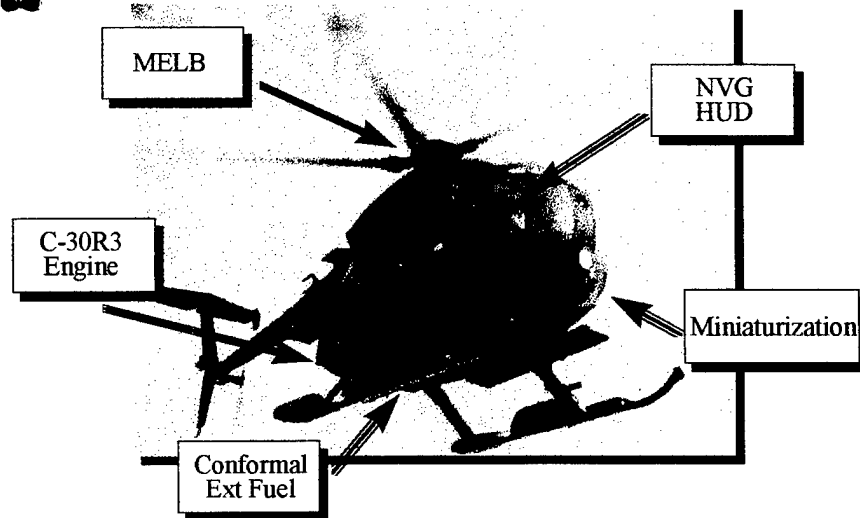


Simulation

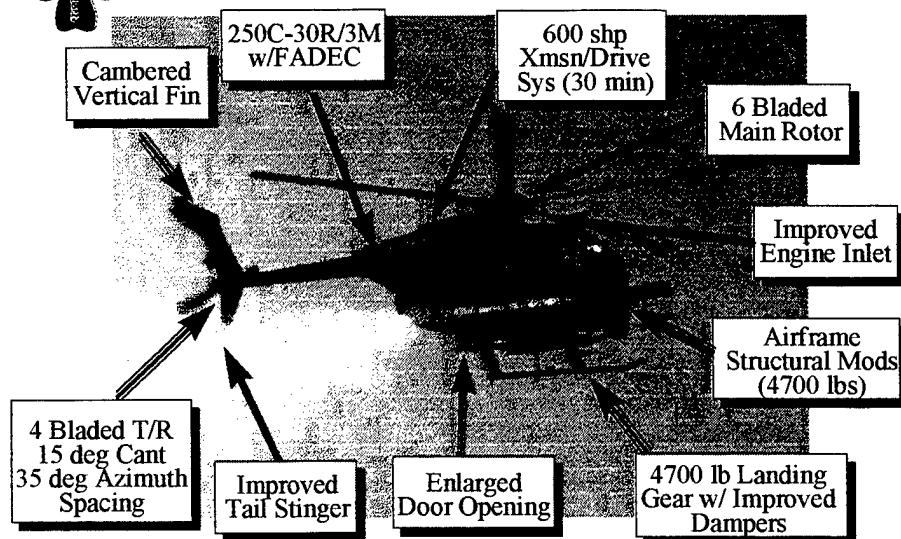




A/MH-6 Little Bird

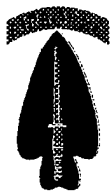
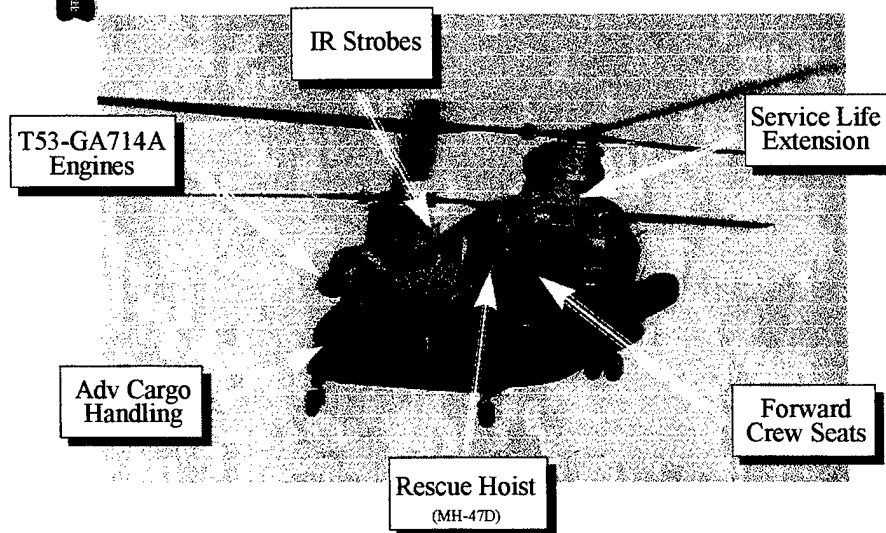


Mission Enhancement Little Bird

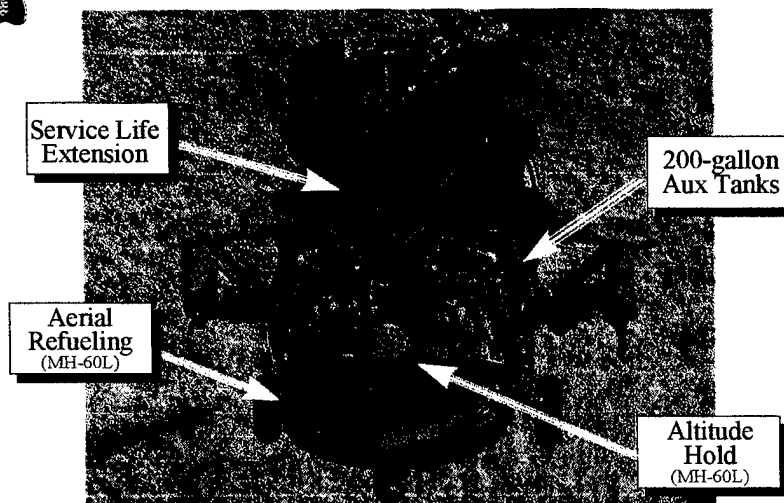


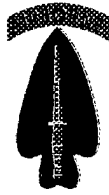


MH-47 Chinook



MH-60 Blackhawk





Constraints on Modernization



- Improvement in capability per modernization dollar is diminishing.
- May be approaching the “knee of the curve” in modernization.
- Modification and sustainment of software is too expensive.
- Complex system integration has to be addressed in terms of total life cycle costs.
- O&S costs will continue to control the modernization accounts.



ARSOA Contributions to Army Aviation



- **Low Observable Technology**
- **Armed OH-58 Helicopter**
- **Night Vision Systems Enhancement and New Developments**
- **Ballistic Armor Suppression System**
- **Fast Rope Insertion / Extraction System**
- **Internal Auxiliary Fuel Tanks**
- **External Rescue Hoist**
- **Phototelesis**
- **Weather Radar and Stormscopes**
- **Voice and Altitude Warning System**
- **Strap-on GPS**
- **Improved Cargo Helicopter Engine**
- **Integrated Cockpit**



The ARSOA

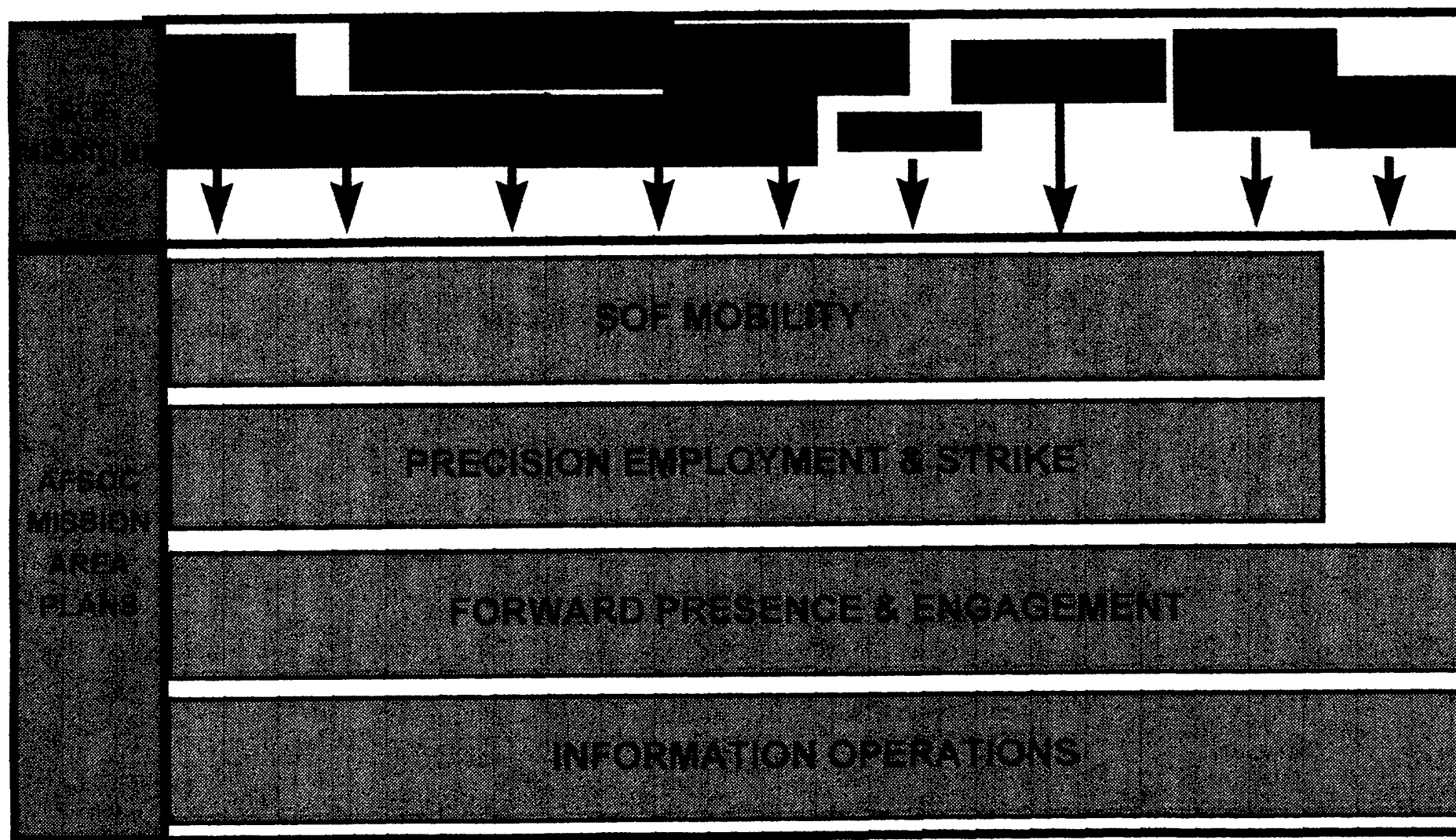
Modernization Program, in concert with outstanding Night Stalker Aviators, Crew Members and Support Personnel, will absolutely ensure ready, responsive and relevant aviation support to the SOF operator of today and tomorrow.

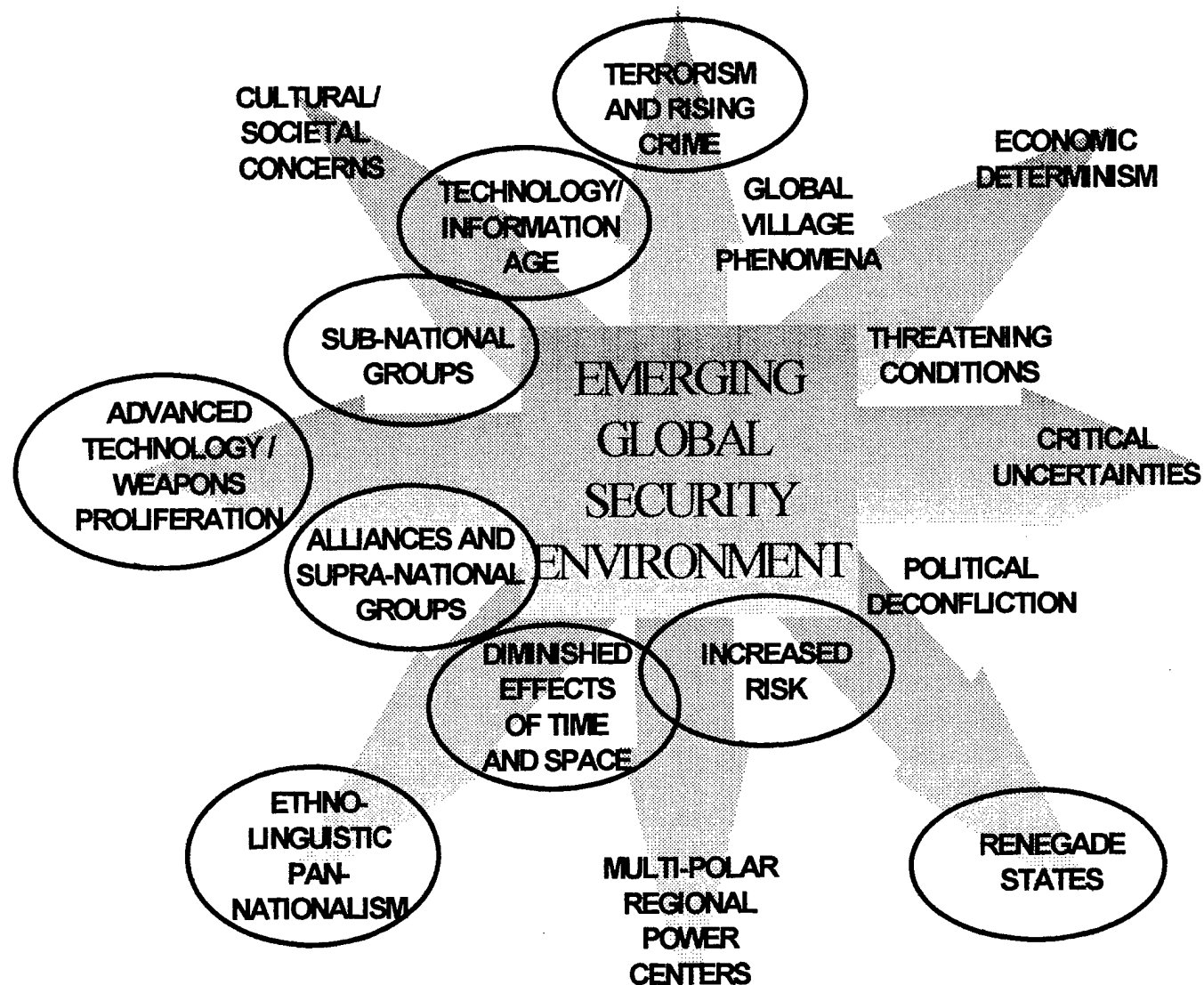
NSDQ

Overview

- AFSOC Missions
- Character of the Environment
- Responses/Options

Current and Probable Future Mission Areas





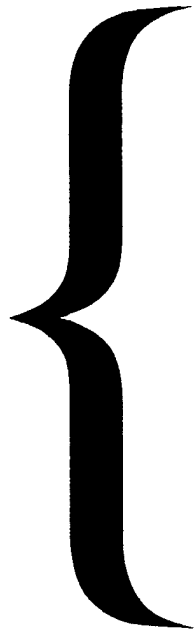
Summary of “Trends”

Bottom line: a radically changing post CW world

UNPREDICTABLE

CHANGE

UNCERTAINTY



GLOBAL INTERDEPENDENCE

HIGH TECH AVAILABILITY

NON-STATE ACTORS & CAUSES

SMALLER BUDGETS

ENVIRONMENT

Future Challenges

- OPSEC a far greater challenge
 - Commercial satellites/communications/sensors/INTERNET provide adversaries enhanced intel tools
 - CNN factor
- Enemies learn too!
 - Employ movement, concealment & deception
 - Increasing trend to urban street-fighter tactics
 - Proliferation of MANPADs and other air defense systems complicate response
- Urban ops magnify above challenges
 - “Guerrillas are like fish that swim in the sea.”

--Mao Tse Tung

Response to Challenges

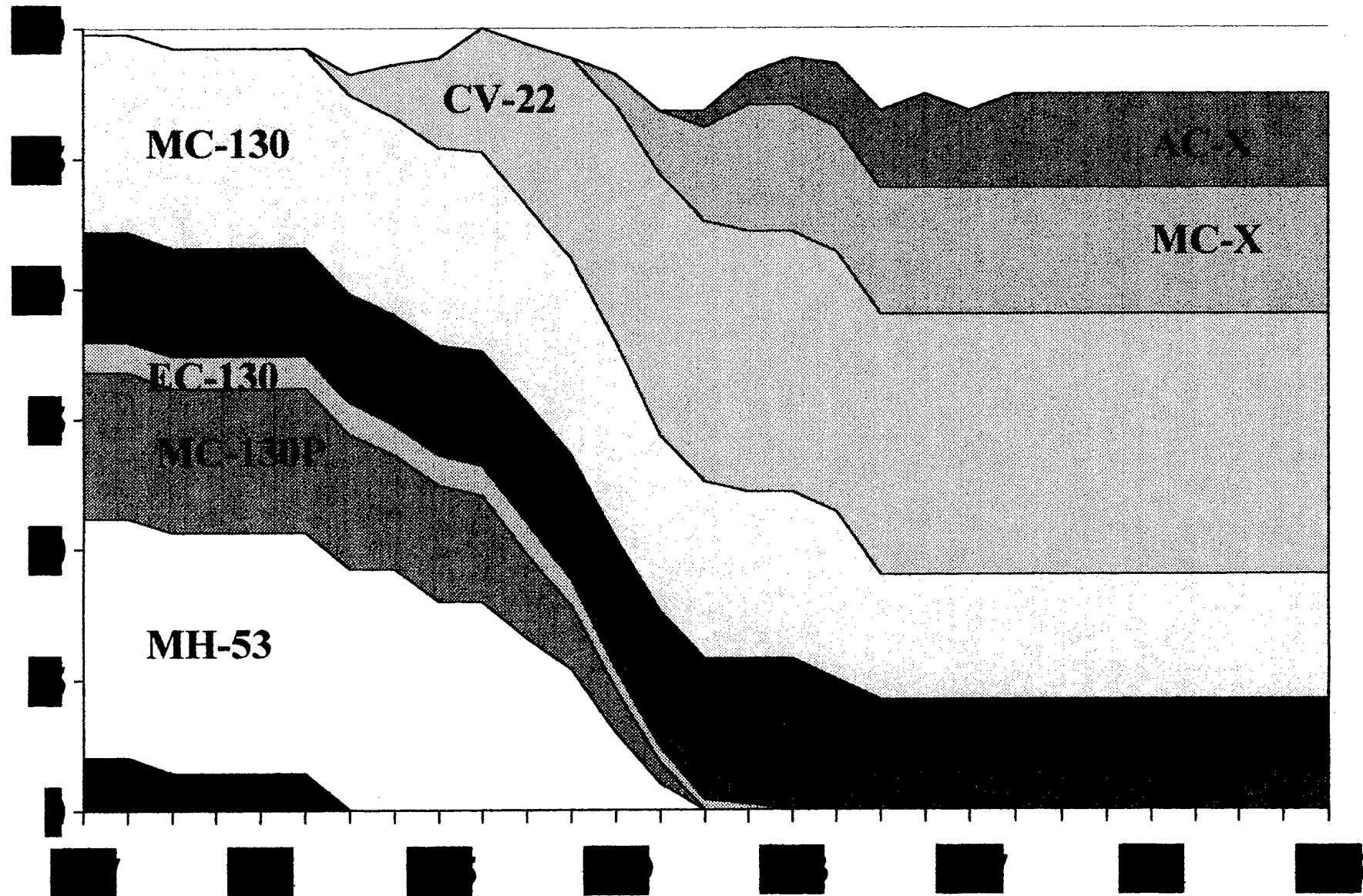
- Find 'Em
 - Increased reliance upon HUMINT
 - Exploit classic Strategic Reconnaissance
 - UAV technology
- Hit 'Em Hard, Hit 'Em Fast (F²T²E*)
 - Speed, Range, Survivability, Reduced Detection, VTOL
 - Reduce trainup rehearsal time through joint high fidelity mission rehearsal systems
 - Gunships & tailored conventional forces
 - improved lethal/nonlethal options

(*Find, Fix, Target, Track, and Engage....USAF Long Range Thrust Area)

Transnational Threats require Transnational Responses...

- Define role for SOF within IO...physical attack, exploitation, deception, and PSYOP?
- Expand cross-cultural expertise orientation?
 - Urban Operations--Unique weapons/sensors/C4ISR (IO?)
- Future focus on SOF skills that support peacetime engagement strategy? (train, advise, assist, assess)
 - Transition to/from coalition support activities throughout the spectrum of conflict
- Multi-agency/multi-national, industry, & *military* response? (effective org, doctrine, opsec?)
 - Recruiting best and brightest from IBM to CDC for meeting the threat (NGO, PVO)

Long Range Planning View



What does future hold for SOF?

- Speed/Range *more* critical
- LO/IO required for survivability and to ensure element of surprise at objective area
- Urban environment dictates “selectable” lethality, range of intel, and unusual skill sets including language
- Can’t wait 6 mos to do an EAGLE CLAW or Son Tay prison raid in 2025...
- 72 hour planning cycle STILL TOO LONG!